

REMARKS

Claims 1-11 are pending in the instant application. Claims 9-11 have been withdrawn from consideration as being directed to a non-elected invention. Claim 1-6, 8 and 10 are rejected. Claims 1 and 7 have been objected to. Claims 2 and 10 have been cancelled. Claims 1 and 7 have been amended. After entry of this amendment, Claims 1 and 3-8 will remain pending.

Lack of Unity Requirement

Claims 1-11 have been subject to restriction as allegedly lacking unity of invention. Applicants elected to pursue the invention of Group I in a telephone call on 07/12/2007 with the Examiner. Applicants hereby confirm the election of Group I with traverse.

Rejection of Claims 1-6, 8 and 10 under 35 USC §112, first paragraph

The Examiner has rejected Claims 1-6, 8 and 10 under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner stated:

The compounds reduced to practice support the following substitutions for Formula I:

n: two;

R<sup>3</sup>: hydrogen, halo, and C<sub>1-2</sub> alkyl wherein said alkyl group is optionally substituted with halo;

D: C<sub>1-3</sub> alkyl, C<sub>2-3</sub> alkenyl, C<sub>2-3</sub> alkynyl, aryl and heteroaryl, substituted as defined;

E: aryl;

R<sup>5</sup>: -SOMR<sup>7</sup>, -SOMR<sup>6</sup>, -R<sup>8</sup>SR<sup>6</sup>, -R<sup>6</sup>, -SOMN(R<sup>c</sup>)(R<sup>d</sup>), -SOMCH(R<sup>8</sup>)(R<sup>9</sup>), -SOM(C<sub>1-6</sub> alkyl)C(O)(C<sub>0-6</sub> alkyl)NR10, -SOM(C<sub>1-6</sub> alkyl)N(R<sup>10</sup>)<sub>2</sub>, -SOM(C<sub>1-6</sub> alkyl)R<sup>10</sup>, -SOM(C<sub>3-8</sub> cycloalkyl)R<sup>10</sup>, -SO<sub>2</sub>N(R<sup>8</sup>)C(O)(R<sup>7</sup>), -SO<sub>2</sub>(R<sup>8</sup>)C(O)C(R<sup>7</sup>)<sub>2</sub>, -OSO<sub>2</sub>R<sup>8</sup>, C(R<sup>8</sup>R<sup>9</sup>)N(R<sup>6</sup>)<sub>2</sub> wherein said groups as substituted as defined.

Applicants respectfully traverse this rejection. Without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have amended Claim 1 to limit the definition of n to two.

With regard to the definition of R<sup>3</sup>, Applicants have fully enabled all the entire scope of the claim, including wherein two R<sup>3</sup> groups can be taken together with the carbon

atom to which they are attached to form a C<sub>3-4</sub> cycloalkyl ring. For example, the following two compounds contain a spirocyclopropyl group off of the cyclohexyl:

6-(2-bromophenyl)-N-(cyanomethyl)spiro[2.5]octane-5-carboxamide and  
N-(cyanomethyl)-6-[4'-(methylthio)-1,1'-biphenyl-2-yl]spiro[2.5]octane-5-carboxamide.

With regard to D, without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have amended Claim 1 to limit the definition of D to aryl and heteroaryl, substituted as defined.

With regard to E, without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have amended Claim 1 to limit the definition of E to aryl, substituted as defined.

With regard to R<sup>5</sup>, Applicants have fully enabled all the entire scope of the claim. The Examiner has conceded support for about half of the groups provided in the definition of R<sup>5</sup>. However, Applicants respectfully maintain that the specification is enabling for each of the R<sup>5</sup> groups claimed. Representative examples are illustrated below (please note that the list of examples is not exhaustive):

- R<sup>5</sup> = OR<sup>6</sup> is illustrated by 2-[4'-(benzyloxy)-1,1'-biphenyl-2-yl]-N-(cyanomethyl)cyclohexanecarboxamide;
- R<sup>5</sup> = halo is illustrated by N-(cyanomethyl)-2-(4'-fluoro-1,1'-biphenyl-2-yl)cyclohexanecarboxamide;
- R<sup>5</sup> = OR<sup>8</sup> is illustrated by N-(cyanomethyl)-2-(4'-hydroxy-1,1'-biphenyl-2-yl)cyclohexanecarboxamide;
- R<sup>5</sup> = alkenyl is illustrated by N-(cyanomethyl)-2-(4'-vinyl-1,1'-biphenyl-2-yl)cyclohexanecarboxamide;
- R<sup>5</sup> = cycloalkyl is illustrated by N-(cyanomethyl)-2-(4'-cyclopropyl-1,1'-biphenyl-2-yl)cyclohexanecarboxamide;
- R<sup>5</sup> = alkyl is illustrated by N-(cyanomethyl)-2-(2'-methyl-1,1'-biphenyl-2-yl)cyclohexanecarboxamide;
- R<sup>5</sup> = NR<sup>8</sup>R<sup>9</sup> is illustrated by 2-(3'-amino-1,1'-biphenyl-2-yl)-N-(cyanomethyl)cyclohexanecarboxamide;
- R<sup>5</sup> = N(R<sup>8</sup>)C(O)R<sup>8</sup> is illustrated by 2-[3'-(acetylamino)-1,1'-biphenyl-2-yl]-N-(cyanomethyl)cyclohexanecarboxamide.

Given the robust amount of examples provided in the specification, Applicants respectfully request that the Examiner withdraw the rejection to the scope of the claims.

The Examiner has rejected Claim 10 as allegedly failing to enable any person skilled in the art to practice the invention commensurate in scope with the claims. Without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have cancelled Claim 10. Accordingly, Applicants respectfully request that the rejection of Claims 1-6, 8 and 10 under 35 USC §112, first paragraph be withdrawn.

Rejection of Claims 1-8 and 10 under 35 USC §112, second paragraph

The Examiner has rejected Claims 1-8 and 10 under 35 USC §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Specifically, the Examiner objected to the inclusion of the limitation "N-oxides thereof" in the claims. Without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have amended Claim 1 to delete "N-oxides derivatives thereof." Applicants have also cancelled Claim 10. Accordingly, Applicants respectfully request that the rejection of Claims 1-8 and 10 under 35 USC §112, second paragraph be withdrawn.

Rejection of Claims 1-2, 4, 8 and 10 under 35 USC §102(b)

The Examiner has rejected Claims 1-2, 4, 8 and 10 under 35 USC §102(b), as allegedly being anticipated by Bekkali et al (US Patent No. 6,313,117). Specifically, the Examiner states:

Bekkali et al disclose exemplary compound 2-(morpholine-4-carbonyl)-cyclohexanecarboxylic acid)benzyloxymethyl-cyano-ethyl)-amide (see column 67) which reads on Applicant's invention wherein R1=H, R2=C1-6 alkyl substituted with OR6, R6= C1-6alkylaryl, n=2, p=0, D=C1 alkyl substituted with keto, E=heterocycll, R5 = H.

The Examiner has also rejected claims 1-2, 4, 8 and 10 under 35 USC §102(b), as allegedly being anticipated by Bailey et al (US Pub No. 2005/0245522). Specifically, the Examiner states:

Bailey et al disclose exemplary compounds such as N-(cyanomethyl)-2-{[4-(4-fluorobenzyl)piperazin-1-yl]carbonyl}cyclohexanecarboxamide (see Example 4, page 4) which reads on Applicant's invention wherein R<sup>1</sup> = R<sup>2</sup> = H, n=2, p=0, D = C<sub>1</sub> alkyl substituted with keto, E = heterocycll, R<sup>5</sup> = C<sub>1</sub> alkyl substituted with aryl; N-(4-cyanotetrahydro-2H-pyran-4-yl)-2-{[4-(4-fluorophenyl)piperazin-1-yl]carbonyl}-cyclohexane carboxamide (see Example 7, page 5) which read on Applicant's invention wherein R<sup>1</sup> and R<sup>2</sup> are taken together with the carbon atom to form a heterocycll ring, n=2, p=0, D = C<sub>1</sub> alkyl substituted with keto, E = heterocycll, R<sup>5</sup> = aryl; N-(4-cyano-1-methylpiperidin-4-yl)-2-{[4-(4-fluorophenyl)piperazin-1-yl]carbonyl}-cyclohexane carboxamide (see Example 8, page 5) which reads on Applicant's invention wherein R<sup>1</sup> and R<sup>2</sup> are taken together with the carbon atom to form a heterocycll ring, n=2, p=0, D = C<sub>1</sub> alkyl substituted with keto, E =

heterocyclyl, R<sup>5</sup> = aryl; N-(1-cyano-3-methoxypropyl)-2-{{4-(4-fluorophenyl)piperazin-1-yl]carbonyl}-cyclohexane carboxamide (see Example 9, page 5) which reads on Applicant's invention wherein R<sup>1</sup> = H, R<sup>2</sup> = C<sub>1-6</sub> alkyl substituted with OR<sup>6</sup>, R<sup>6</sup> = alkyl, n=2, p=0, D= C<sub>1</sub> alkyl substituted with keto, E = heterocyclyl, R<sup>5</sup> = aryl.

Without conceding the correctness of the Examiner's rejection, but to advance the prosecution of the instant application, Applicants have amended the definition of D in Claim 1 such that it no longer includes alkyl. Applicants have cancelled Claim 2 to incorporate its limitations into Claim 1. Applicants have cancelled Claim 10. Accordingly, Applicants respectfully request that the rejection of Claims 1-2, 4, 8 and 10 under 35 USC §102(b) be withdrawn.

#### Objection to Claim 1

The Examiner has objected to Claim 1 regarding the inclusion of the variable "m". The Examiner requested deletion of "m" as it "does not appear to represent any structural moiety." Applicants respectfully draw the Examiner's attention to the definition of R<sup>10</sup>, where the moiety "m" appears. Accordingly, Applicants respectfully request that the objection to Claim 1 be withdrawn.

#### Objection to Claim 7

The Examiner has objected to Claim 7 as not being written in proper format for a Markush-type claim. Specifically, the Examiner has requested that an "and" be placed between the last two species. Applicants have amended Claim 7 to comply with proper Markush format, and respectfully request that the objection to Claim 7 be withdrawn.

#### Objection to the Specification

The Examiner has objected to the specification due to multiple unrecognizable square symbols on pages 24-25, 42 and 45. Applicants have amended the specification to provide clarification. Applicants identified other square symbols in the specification and have provided clarification for them as well. In light of these amendments, Applicants respectfully request that the objection to the specification be withdrawn.

#### Objection to Oath/Declaration

The Examiner has objected to the oath/declaration as being defective. Accordingly, Applicants are submitting a new declaration in compliance with 37 CFR 1.67(a).

If a telephonic communication with the Applicants' representative will advance the prosecution of the instant application, please telephone the representative indicated below. Applicants believe no additional fees are due but the Commissioner is authorized to charge any fees required in connection with this response to Merck Deposit Account No. 13-2755.

Respectfully submitted,

By Nicole M. Beeler  
Nicole M. Beeler  
Reg. No. 45,194  
Attorney for Applicants

MERCK & CO., INC.  
P.O. Box 2000  
Rahway, New Jersey 07065-0907  
(732) 594-1077

Date: September 27, 2007

Attachment: Oath/Declaration